Effects of Brief Meditation on Memory

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INTRODUCTION

- Past research has demonstrated that working memory can be improved through meditation (Fabio & Towey, 2018; Zeidan et al., 2010).
- Even **brief periods of meditation** have been found to cause changes in brain structure and function which leads to **improvements in cognitive functions** (Moss et al., 2013).
- While many studies have shown the **impact of meditation** in **improving attention**, research related to meditation and memory. **has not been examined as thoroughly** (Moss et al., 2013)
- A more recent study on the relationship between long-term meditation and cognitive functions found that meditation improved attentional functions, working memory and cognitive flexibility (Fabio & Towey, 2018).
- Most studies on this topic have focused on the **impact of long-term meditation**, while comparatively **little research** has been conducted on the **impact of brief meditation**.

Hypothesis:

Participants who watch the brief meditation video will perform better on the memory test in comparison to participants who watch the non-meditation video.

METHODS

Design:

- **Between Group Experimental Design**
- **IV:** Type of video (**Meditation** vs **non-meditation** video)
- **DV:** Memory Score (Number of correct items out of 30 on the memory test)

Participants:

- Participants were recruited through the KPU research pool, and **snowball sampling** (i.e., family and friends)
- **Meditation group**: 27 participants, mean age = 25.7 years (*SD* = 3.36), 56% female, 44 % male
- **Non-meditation group**: 22 participants, mean age 22.0 years *(SD* = 3.83), 64% female, 36% male

Materials:

- 5-minute meditation video (https://youtu.be/inpok4MKVLM) and 5-minute non-meditation video (https://youtu.be/8S0FDjFBj8o)
- Video including images of 30 objects for memory task

METHODS CONT.

Procedure:

- This was an online study conducted through Qualtrics.
- After provided electronic consent, participants were randomly assigned to either watch a meditation or a non-meditation video, with participants in the meditation group also being instructed to meditate along with video.
- Following this, all participants watched a video containing 30 images of objects and were instructed to remember them as they appeared on the screen one by one.
- Later, participants recalled the objects from the video and average scores for both the groups was obtained.

RESULTS

- See Figure 1 for **means** and **standard deviations** for the two video groups
- An **independent sample t-test** indicated no statistically significant difference between the two video groups, $t(47) = 0.73$, $p = .467$, $d = 0.21$ **(small effect)**

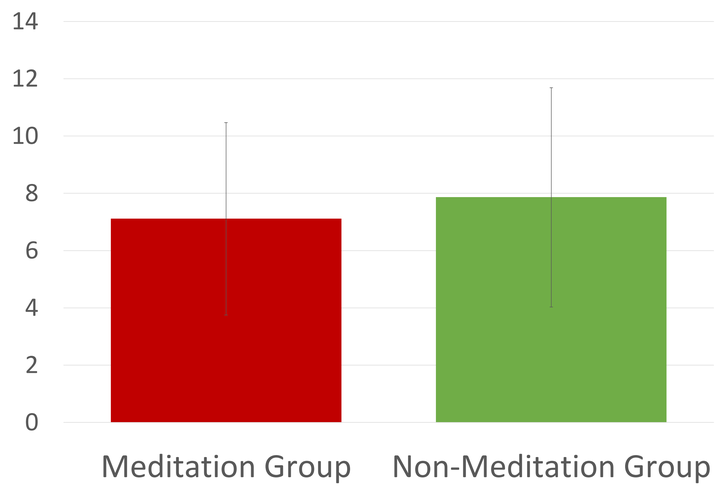

Figure 1
Means and Standard Deviations for the Memory Score (out of 30) for the Two Video Groups

DISCUSSION

- Our hypothesis that brief guided meditation will improve memory **was not supported.**
- These findings were in opposition to the study conducted by Ramsburg and Youmans (2014) which demonstrated that brief meditation training improved students' knowledge retention skills.
- It is possible that these non-significant findings **could be a result of student's failing to meditate along with the video, the small sample size, or the online nature of this study.** Also, the **failure to use any exclusion criteria**, such as exclusion of people with cognitive impairments could have led to non-significant results.
- **Future research** should consider a similar in-person study where it can be directly observed if participants are meditating.
- More research is needed in this area as other researchers have found that both focused and open-monitoring meditation have resulted in increases in performance on attention-dependent mental tasks such as the Stroop task, dichotic listening tasks and the attentional blink task (Ramsburg & Youmans, 2014).

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